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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,434	05/31/2001	Ronald K. Anderson	AND002-010D1	8057

7590 08/24/2005

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EXAMINER	
LEE, EDMUND H	

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/867,434	ANDERSON ET AL.	
	Examiner	Art Unit	
	EDMUND H. LEE	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 16-26 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 16-26 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Upon discovery of newly discovered prior art, the finality of the previous Office action has been withdrawn.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 16-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plante (USPN 4842742) in view of Denmark (GB 1521037). In regard to claim 16, Plante teaches a method of thermoforming an appliance liner (col 7, lns 13-30; col 8, lns 5-18; col 10, lns 48-49; figs 1-11); extruding a sheet of plastic material (col 7, lns 13-30; col 8, lns 5-18; col 10, lns 48-49; figs 1-11); arranging the sheet in a stack of similarly extruded sheets wherein the sheet is permitted to cool (col 7, lns 13-30; col 8, lns 5-18; col 10, lns 48-49; figs 1-11); transferring the sheet to a temperature control unit (col 7, lns 13-30; col 8, lns 5-18; col 10, lns 48-49; figs 1-11); directing a temperature controlled medium onto opposing side surfaces of the sheet within the temperature control unit to establish a substantially uniform temperature across the sheet (col 7, lns 13-30; col 8, lns 5-18; col 10, lns 48-49; figs 1-11)--as a note, the radiant heat constitutes the medium; delivering the sheet to a thermoforming device for creating the molded article (col 7, lns 13-30; col 8, lns 5-18; col 10, lns 48-49; figs 1-11). Plante, however, does not teach directing a fluid medium. Denmark teaches a method of thermoforming that uses a jet of hot steam or gas against a sheet to uniformly heat the sheet before a step of

thermoforming (abstract; pg 1, lns 21-70; pg 2, lns 5-10, 28-32, and 91-97; figs 1-2). Plante and Denmark are combinable because they are analogous with respect to thermoforming articles from a uniformly heated sheet. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fluid medium of Denmark in the process of Plante in order to form a more uniform heated sheet. In regard to claims 17-26, Plante teaches creating a temperature differential across the entire sheet of less than 5F (col 7, lns 13-30; col 8, lns 5-18; col 10, lns 48-49; figs 1-11)--it should be noted that the teaching found at col 7, lns 15-19 of Plante is within the claimed temperature differential; extruding the sheet at a thickness of approx. .20 inch (col 10, lns 48-49)--as a note, the 0.18 inch teaching of Plante is within the scope of the claimed thickness; and creating an appliance liner with a depth of approx. 24 inches (col 10, lns 60-61)--as a note, the 20 inches teaching of Plante is within the scope of the claimed depth. Plante, however, does not teach recirculating the fluid medium through the manifold assembly; developing a flow of air through the use of first and second blowers with each blower having the claimed air flow rate; operating at the claimed static pressure range; providing nozzles at the claimed distance from the opposing side surfaces; sensing operating parameters of the temperature control unit, and regulating the unit based on the sensed operating parameters; heating the sheet to the claimed temperature; controlling an amount of heat added to the air by varying an operating speed of the blower unit; and regulating the position of a damper unit to control an introduced amount of ambient air into the manifold assembly. In regard to recirculating the fluid medium through the manifold assembly, such is well-known in the

molding art in order to reduce molding costs. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to recirculate the medium in order to reduce cycle time and molding costs. In regard to developing a flow of air through the use of first and second blowers with each blower having the claimed air flow rate, air flow rate of heating medium is well-known in the molding art as an important molding parameter and the desired air flow rate would have been obviously and readily determined through routine experimentation by one having ordinary skill in the art at the time the invention was made. Further, the claimed flow rate is generally well-known in the molding art and it would have been obvious to one of ordinary skill in the art at the time the invention was made to set the flow rate of Plante (modified) to the claimed rate in order to efficiently heat the sheet of Plante. In regard to operating at the claimed static pressure range, pressure is well-known in the molding art as an important molding parameter and the desired pressure would have been obviously and readily determined through routine experimentation by one having ordinary skill in the art at the time the invention was made. Further, the claimed static pressure range is generally well-known in the molding art and it would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the sheet of Plante at the claimed static pressure range in order to reduce cycle time and efficiently heat the sheet of Plante. In regard to providing nozzles at the claimed distance from the opposing side surfaces, such is a mere obvious matter of choice dependent on equipment availability and of little patentable consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, the claimed apparatus set up is generally well-

known in the molding art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange nozzles of Plante (modified) at the claimed distance in order to efficiently heat the sheet of Plante. In regard to sensing operating parameters of the temperature control unit, and regulating the unit based on the sensed operating parameters, such is taught by the combined teachings of Plante and Denmark. In regard to heating the sheet to the claimed temperature, preform temperature is well-known in the molding art as an important molding parameter and the desired temperature would have been obviously and readily determined through routine experimentation by one having ordinary skill in the art at the time the invention was made. Further, the claimed temperature is generally well-known in the molding art and it would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the sheet to the claimed temperature in order to ensure thermoformability of the sheet. In regard to controlling an amount of heat added to the air by varying an operating speed of the blower unit, such is well-known in the molding and heating art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the speed of the blowers of Plante (modified) in order to control the amount of heat added to the air. In regard to regulating the position of a damper unit to control an introduced amount of ambient air into the manifold assembly, such is well-known in the molding art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to regulate the position of a damper in the process of Plante (modified) in order to better control the heating of the sheet of Plante.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDMUND H. LEE whose telephone number is 571.272.1204. The examiner can normally be reached on MONDAY-THURSDAY FROM 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on 571.272.1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EDMUND H. LEE
Primary Examiner
Art Unit 1732

EHL

8/22/05